

NEW RECORDS OF NORTH AMERICAN ODONATA¹

Sidney W. Dunkle²

ABSTRACT: New records, including 28 state records, 11 range extensions, and 12 flight date extensions are given for 36 species of Nearctic Odonata. *Aeshna multicolor* Hagen is deleted from the Missouri fauna. Behavioral and habitat notes are given for *Arigomphus maxwelli* (Ferguson) and *Aeshna mutata* Hagen.

This paper includes geographical and temporal information on Nearctic Odonata accumulated by the author since 1975. Data obtained prior to that year are given in Dunkle (1975). The Anisoptera records listed below are in the same sequence as in Needham and Westfall (1955). One or more substantiating specimens are placed in the Florida State Collection of Arthropods (FSCA) at Gainesville, and specimens were collected by the author (SWD), unless otherwise noted.

Hagenius brevistylus Selys. VERMONT, Essex Co., outlet Dennis Pond, 17 July 1982, 6 ♂♂. New VT record. Also listed for VT in Carle (1982).

Octogomphus specularis Hagen. CALIFORNIA, Fresno Co., Fancher Creek, 8 April 1977, 1 ♀ exuviae. New early date.

Arigomphus maxwelli (Ferguson). MISSISSIPPI, Sharkey Co., Blue Lake and Barge Lake, 20-21 May 1981, and a large pond on MS 16, 15 km SE Rolling Fork, 22 May 1981. New MS record. Blue Lake and Barge Lake are inter-connected, swampy, muddy sloughs. Here, a number of ♂♂ and 2 teneral ♀♀ were collected. The mature ♂♂ perched in small sunlit areas in the swamp on the mud at the edge of the water, on logs near shore, or occasionally on leaves low over the water. They avoided open shoreline and logs in open water, and I did not find them in small forest sunspots. They were present at the water beginning about 1000, and definitely dwindled in number after 1330. They usually perched with their abdomens held horizontally, but sometimes raised their abdomens 45 degrees, probably to decrease body temperature. Two exuviae were found 2-10 cm above the water on logs. At the pond on Route 16, which had open shores, several ♂♂ were present about 1000, but seemed to be driven away by males of the larger *Arigomphus submedianus* Williamson which arrived in greater numbers later in the morning. *A. submedianus* was not present at Blue Lake or Barge Lake. One *A. maxwelli* oviposited while hovering 10 cm up, by tapping the tip of the abdomen to the water along the shoreline while facing the bank. At another locality, in Arkansas, 2 ♂♂ perched on a semi-shaded duckweed (*Lemna* sp.) mat in a slow small river.

A. villosipes (Selys). MISSOURI, Shannon Co., Lewis Lake 3 km N of Winona, 8 June 1981, 1 ♂. New for MO and western range extension.

Gomphus consanguis Selys. GEORGIA, Walker Co., E fork of East Armuchee Creek, SE of Villanow, 14 June 1979, 1 ♂ 1 ♀, SWD Collection. New for GA and southern range extension.

G. rogersi Gloyd. GEORGIA, Lumpkin Co., Hidden Lake 15 km NW of Dahlonega, 18 June 1979, 1 ♂ 1 ♀, SWD Collection. Gilmer Co., Big Turniptown Creek at GA 5, 13 April 1980, 3 larvae (Louton, 1982). New GA records and southern range extension.

G. grasilinellus Walsh. TEXAS, Real Co., Nueces River at Barksdale, 15 March 1978, 1 ♂ 1 ♀ reared, SWD Collection. Southwestern range extension.

¹Received March 12, 1982. Accepted May 12, 1983.

²Bureau of Entomology, Division of Plant Industry, Box 1269, Gainesville, Florida 32602.

G. apomyius Donnelly. MISSISSIPPI, Lauderdale Co., Chickasawhay River at U.S. 80, 1.7 km E of Chunky, 17 May 1981, 1 ♀, SWD Collection. New late date.

G. parvidens Currie. GEORGIA, Richmond Co., Sandy Run at U.S. 1, 16 May 1982, 2 ♂♂ 1 ♀. New GA record.

Stylogomphus albistylus (Hagen). ALABAMA, Tuscaloosa Co., Cooley Creek, 14 May 1939, collector unknown, 1 ♀. VERMONT, Essex Co., outlet McConnell Pond at VT 105, 14-15 July 1982, 5 ♂♂ 2 ♀♀. New early date and VT record.

Stylurus amnicola (Walsh). GEORGIA, Houston Co., Ocmulgee River at GA 96, 21 June 1982, 5 ♂♂ 1 ♀. New GA record and southeastern range extension.

Boyeria graefiana Williamson. GEORGIA, Lumpkin Co., Dick's Creek 5.7 km N of U.S. 19, 31 Aug 1975, 1 ♂. White Co., Hiwassee River at GA 75, 2 Aug. 1981, 4 ♂♂, collected by J. Daigle and in his collection. VERMONT, Essex Co., outlet Wheeler Pond at VT 102, 16 July 1982, 2 ♂♂. New VT and GA records, the latter a southern range extension. Also listed for VT in Carle (1982).

Anax longipes Hagen. MISSOURI, Oregon Co., pond 0.3 km W of MO 19 on Mark Twain National Forest Road 3174, 7 June 1981, 1 ♂ exuviae. One mature ♂ also seen. New MO record.

Aeshna mutata Hagen. MISSOURI, same data as *Anax longipes*, 7 ♂♂. New MO record and western range extension. According to Needham and Westfall (1955), the very similar species *A. multicolor* Hagen ranges E to Nebraska, Kansas, and Texas, but their record for MO was apparently based on the "Upper Missouri" in Hagen (1861). Thus *A. multicolor* should be deleted from the MO fauna.

The MO habitat for *Anax longipes* and *Aeshna mutata* as well as *Lestes eurinus* Say was a small man-made pond, about 20 X 70 m. The abundance of these uncommon odonates at this pond was no doubt due to its lack of fish, although larval newts were common. Up to 3 ♂♂ *A. mutata* at a time patrolled the pond, especially in the shade, until 2016 at a height of 15-25 cm. They rested in the trees after patrolling for periods of about 15 min. The patrol flights were leisurely, erratic, and mostly well out from shore, with the abdomen slightly raised and the wings beating only a little below the horizontal plane. From 1937-2030, females were ovipositing in the underwater parts of the flower stems of water-shield (*Brasenia* sp.), almost entirely in the middle of the pond.

A. persephone Donnelly. ARIZONA, Cochise Co., Cave Creek at John Hand Dam W of Portal, 23 Oct 1976, 4 ♂♂ 1 ♀, SWD Collection. New late date. These specimens were taken in cool weather as they flew closely along the shoreline at times when the sun had been shining for periods of at least 5 min.

A. umbrosa umbrosa Walker. GEORGIA, Fannin Co., Edmunson Fish Rearing Pond N of Hawk Mountain, 27 Oct. 1951, 2 ♂♂, collected by W.H. Cross. Hall Co., Owens Farm near Gainesville, 2 April 1979, 15 larvae, collected by M.J. Westfall. Towns Co., Bald Mountain Park, 1 Sept. 1975, 1 ♂. These new GA records are at the southern edge of the species range.

A. walkeri Kennedy. CALIFORNIA, Madera Co., small tributary to Kerckhoff Reservoir, 13 June 1977, 2 exuviae, SWD Collection. Fresno Co., Sycamore Creek at Pine Flat Reservoir, 9 Nov. 1976, 5 ♂♂, SWD Collection. New range of dates.

Macromia margarita Westfall. NORTH CAROLINA, Macon Co., Cullasaja River 6.7 km W of Highlands on U.S. 64, 5 Aug. 1981, 1 ♂ 1 ♀, SWD Collection, J. Daigle Collection. New late date.

Neurocordulia virgininiensis Davis. ARKANSAS, Montgomery Co., Ouachita River at U.S. 270, 28 May 1981, 1 ♀. New for AR.

N. yamaskanensis (Provancher). NORTH CAROLINA, Macon Co., Little Tennessee River at Iotla, 24 June 1982, 1 ♂. New NC record.

Epitheca costalis (Selys). ILLINOIS, Gallatin Co., Pounds Hollow Lake, 11 June 1981, 2 ♂♂, 1 ovipositing ♀, SWD Collection. MISSOURI, Wayne Co., Markham Springs, June 1981, 5 ♂♂. New IL and MO records, the former a northern range extension. These specimens were tentatively determined as *E. costalis* by K.J. Tennessen and the author. However, *E. costalis* is nearly identical morphologically with *E. spinigera* (Selys) of IL and northward, and *E. petechialis* (Muttkowski) of Kansas and westward. These 3 species and the enigmatic *E. williamsoni* (Muttkowski) urgently need critical study. At the IL locality, *E. cynosura* (Say) was flying mixed in with *E. costalis* on sex patrols.

- E. petechialis* (Muttkowski). TEXAS, Val Verde Co., Sycamore Creek at U.S. 90, 14 March 1978, 1 teneral ♀. New early date.
- Somatochlora elongata* (Scudder) GEORGIA, White Co., Chattahoochee River at Robertstown, 25 May 1979, 1 reared ♀, SWD Collection. VERMONT, Essex Co., outlet McConnell Pond at VT 105, 15 July 1982, 3 ♂♂. Also listed for VT in Carle (1982). New VT and GA records, the latter a slight southern range extension.
- S. georgiana* Walker. MISSISSIPPI, Jackson Co., Big Cedar Creek at S-63, 29 June 1968, 1 ♀, collected by W.F. Mauffray and W. Walters. Wayne Co., stream 5 km E of Buccatunna, 11 Aug. 1977, 1 ♂, SWD Collection. New MS records.
- S. minor* Calvert. VERMONT, same data as *S. elongata*, 1 ♂. New VT record.
- S. walshii* (Scudder). VERMONT, same data as *S. elongata*, 1 ♂ 1 ♀. Also listed for VT in Carle (1982). New VT records.
- S. williamsoni* Walker. VERMONT, Essex Co., outlet Spectacle Pond, 14 July 1982, 3 ♂♂. Also listed for VT in Carle (1982). New VT records.
- Ladona deplanata* Rambur. MISSOURI, Oregon Co., McCormack Lake, 7 June 1981, 1 ♂ 1 ♀, SWD Collection. Wayne Co., Upalika Pond 11.7 km E of Ellsinore, 9 June 1981, 1 ♂. New MO records.
- Libellula forensis* Hagen. CALIFORNIA, Fresno Co., Lost Lake, 25 April 1977, 1 ♂, SWD Collection. New early date.
- Sympetrum rubicundulum* (Say). GEORGIA, Rabun Co., pond W of Moccasin Creek State Park, 29 Aug. 1978, 15 ♂♂. White Co., Dukes Creek at GA 75, 18 June 1979, 1 ♂. New GA records and southern range extension.
- Erythemis collocata* (Hagen). CALIFORNIA, Fresno Co., Lost Lake, 25 April 1977, 1 mature ♂. New early date.
- Archilestes californica* MacLachlan. CALIFORNIA, Fresno Co., Sycamore Creek at Pine Flat Reservoir, 9 Nov. 1976, 7 ♂♂ 1 ♀. New late date.
- Lestes eurinus* Say. VIRGINIA, Highland Co., Locust Spring beaver pond, 4 July 1981, 1 ♂, SWD Collection. Giles Co., Mt. Lake Biological Station, 17-22 July 1978, 14 ♂♂ 5 ♀♀, collected by F.C. Johnson. New VA records.
- L. rectangularis* Say. GEORGIA, White Co., Helen, 26 March 1979, 4 ♂♂. New early date.
- Enallagma hageni* (Walsh). VIRGINIA, Highland Co., Locust Spring Beaver Ponds, 4 July 1981, 9 ♂♂ 3 ♀♀. Giles Co., Mt. Lake Biological Station, 17-22 July 1978, 2 ♂♂, collected by F.C. Johnson. New VA records.
- Nehalennia gracilis* Morse. GEORGIA, White Co., spring ponds at Dukes Creek and GA 75, 25 May 1979, 1 ♂. New GA record.

ACKNOWLEDGMENTS

I thank Minter Westfall and Jerrell Daigle for permission to include some of their records, and Minter Westfall, George Bick, Juanda Bick, and Leonora Gloyd for reading the manuscript.

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